

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jeffrey B. Miller Art Unit : Unknown
Serial No. : Examiner : Unknown
Filed : Herewith
Title : MOLECULAR MARKER FOR MUSCLE STEM CELLS

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows.

In the specification:

Replace the paragraph beginning at page 1, line 4, with the following paragraph.

-- This application is a continuation of U.S. application serial no. 09/053,031, filed April 1, 1998, which claims priority from U.S. application serial no. 60/041,825, filed April 1, 1997 (now expired). The entire disclosures of the prior applications are considered part of (and are incorporated by reference in) the disclosure of this application. --

In the claims:

Cancel claims 1-20.

Add claims 21-54.

-- 21. An isolated skeletal muscle stem cell.

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No. EL485677569US

I hereby certify under 37 CFR §1.10 that this correspondence is being deposited with the United States Postal Service as Express Mail Post Office to Addressee with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

Date of Deposit

Signature

Typed or Printed Name of Person Signing Certificate

22. A clone comprising a plurality of isolated skeletal muscle stem cells.

23. A purified preparation of mammalian cells, at least 50% of which are muscle stem cells that can produce skeletal muscle cells.

24. The purified preparation of mammalian cells of claim 23, wherein at least 95% of the cells are muscle stem cells that can produce skeletal muscle cells.

25. An isolated muscle stem cell that produces myoblasts.

26. The cell of claim 25, wherein the cell comprises an exogenous nucleic acid sequence.

27. The cell of claim 25, wherein the exogenous nucleic acid sequence is operably linked to a muscle stem cell-active promoter.

28. The cell of claim 27, wherein the muscle stem cell-active promoter is a Bcl-2 promoter.

29. The cell of claim 26, wherein the exogenous nucleic acid sequence encodes a marker protein.

30. The cell of claim 26, wherein the exogenous nucleic acid sequence encodes a cell surface polypeptide.

31. The cell of claim 26, wherein the exogenous nucleic acid sequence encodes a protein selected from the group consisting of CD8, influenza virus hemagglutinin, β -galactosidase, green fluorescent protein, catechol 2,3-dioxygenase, and aequorin.

32. The isolated muscle stem cell of claim 25, wherein the cell expresses an apoptosis-resistance gene.

33. The isolated muscle stem cell of claim 32, wherein the apoptosis-resistance gene is Bcl-2.

34. A clone comprising a plurality of isolated muscle stem cells that produce myoblasts.

35. A purified preparation of mammalian cells, at least 50% of which are muscle stem cells that can produce myoblasts.

36. The purified preparation of mammalian cells of claim 35, wherein at least 95% of the cells are muscle stem cells that can produce myoblasts.

37. An isolated cardiac muscle stem cell.

38. The cell of claim 37, wherein the cell comprises an exogenous nucleic acid sequence.

39. The cell of claim 27, wherein the exogenous nucleic acid sequence is operably linked to a muscle stem cell-active promoter.

40. The cell of claim 39, wherein the muscle stem cell-active promoter is a Bcl-2 promoter.

41. The cell of claim 38, wherein the exogenous nucleic acid sequence encodes a marker protein.

PCT/US2003/036360

42. The cell of claim 38, wherein the exogenous nucleic acid sequence encodes a cell surface polypeptide.

43. The cell of claim 38, wherein the exogenous nucleic acid sequence encodes a protein selected from the group consisting of CD8, influenza virus hemagglutinin, β -galactosidase, green fluorescent protein, catechol 2,3-dioxygenase, and aequorin.

44. The isolated muscle stem cell of claim 37, wherein the cell expresses an apoptosis-resistance gene.

45. The isolated muscle stem cell of claim 44, wherein the apoptosis-resistance gene is Bcl-2.

46. A clone comprising a plurality of isolated cardiac muscle stem cells.

47. A purified preparation of mammalian cells, at least 50% of which are muscle stem cells that can produce cardiac muscle cells.

48. The purified preparation of mammalian cells of claim 47, wherein at least 95% of the cells are muscle stem cells that can produce cardiac muscle cells.

49. The clone of claim 22, wherein the cells express Bcl-2.

50. The clone of claim 34, wherein the cells express Bcl-2.

51. The clone of claim 46, wherein the cells express Bcl-2.

52. The purified preparation of claim 23, wherein the muscle stem cells that can produce skeletal muscle stem cells express Bcl-2.

53. The purified preparation of claim 35, wherein the muscle stem cells that can produce myoblasts express Bcl-2.

54. The purified preparation of claim 47, wherein the muscle stem cells that can produce cardiac muscle cells express Bcl-2. --

卷之三

Applicant : Jeffrey B. Miller
Serial No. :
Filed : Herewith
Page : 6

Attorney's Docket No.: 08472-720003

REMARKS

Claims 21-54 are pending in the application, claims 1-20 having been cancelled and claims 21-54 having been added by the present amendment. Support for new claims 21-54 is found throughout the specification. Exemplary supporting passages are as follows. Support for new claims 21-24 can be found at, for example, page 1, lines 16-19; page 2, lines 8-10; and page 7, lines 10-13. Support for new claims 25-48 can be found at page 1, lines 16-19, and page 7, lines 10-13. Further support for new claims 25 and 37 can be found at page 2, lines 1-3. Support for claims 26 and 38 can also be found at page 18, line 15, through page 20, line 11. Support for new claims 27, 28, 39, and 40 can be found at page 19, line 30, through page 20, line 1. Support for new claims 29-31 and 41-43 can be found at page 4, line 12, through page 5, line 2. Support for new claims 32, 33, 44, and 45 can be found at page 5, lines 11-23. Support for new claims 34, 35, 46, and 47 can be found at page 29, line 6. Support for new claims 36 and 48 can be found at page 31, line 17. Support for new claims 49-54 can be found at page 1, lines 28-30; page 29, line 6; and page 7, lines 10-15. No new matter has been added.

Applicant asks that all claims be examined. Enclosed is a check for \$721 to cover the basic filing fee and the fee for the excess claims presented by this amendment. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,



Lee Crews, Ph.D.
Reg. No. 43,567

Date: July 19, 2001
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

Version with markings to show changes made

In the specification:

Paragraph beginning at page 1, line 4 has been amended as follows:

[Under 35 U.S.C. §119 (e)(1), this application claims the benefit of prior U.S. provisional application No. 60/041,825, filed April 1, 1997.] This application is a continuation of U.S. application serial no. 09/053,031, filed April 1, 1998, which claims priority from U.S. application serial no. 60/041,825, filed April 1, 1997 (now expired). The entire disclosures of the prior applications are considered part of (and are incorporated by reference in) the disclosure of this application.

In the claims:

Claims 1-20 have been cancelled.